Date: Mon, 27 Jun 94 04:30:15 PDT
From: Ham-Policy Mailing List and Newsgroup <ham-policy@ucsd.edu>
Errors-To: Ham-Policy-Errors@UCSD.Edu
Reply-To: Ham-Policy@UCSD.Edu
Precedence: Bulk
Subject: Ham-Policy Digest V94 #286
To: Ham-Policy

Ham-Policy Digest Mon, 27 Jun 94 Volume 94 : Issue 286

Today's Topics:

Send Replies or notes for publication to: <Ham-Policy@UCSD.Edu>
Send subscription requests to: <Ham-Policy-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Policy Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/ham-policy".

Date: Sun, 26 Jun 1994 14:37:21 GMT
From: ihnp4.ucsd.edu!usc!howland.reston.ans.net!gatech!kd4nc!ke4zv!
gary@network.ucsd.edu
Subject: CW...hear, touch, simplicity
To: ham-policy@ucsd.edu

In article <gganderson.465.0@augustana.edu> gganderson@augustana.edu (Kevin
Anderson -7325) writes:
>This note is more than the subject implies....Please read on
>(I read your notes :-) before simply replying....
>
>I am not trying to push the envelope of technology. Nor
>do I intend to try. Nor do I necessarily intend to restrict
>others from doing so (although I may personally question
>the need to extend technology).

The need to extend technology comes from the charter of the amateur
service. One of our reasons for existance as a service is to advance
the state of the art in radio communications. Most amateurs do so,
even if unconsciously. Providing test loading to the spectrum and data

to networks are valuable to experimenters, as is providing a market for innovative technologies. They also serve who just sit and yack, though obviously those who experiment and do contribute more.

>I like radio that is simple. I don't mean here radio that
>is simple in a modern appliance operator-type means, with
>pushbutton control of everything and digital this-and-that,
>but in radio that is simple on the "inside" as well in
>concept. I like radio that *I* can hear, that I turn the
>dial to hear, that I swing an iron to make, and not radio
>where I rely on a screen or computer or silicon this-and-that.

Well vacuum tubes have a certain quaint charm, and still fill some useful niches, but silicon is the name of the game today. And advances in silicon fabrication have allowed us to build radios that are *simpler* in some very real senses while still being much more capable than radios of years gone by. Complete IF sections are now available as a single component. DSP offers filters at costs and shape factors undreamt of a couple of decades ago. Complicated control and display functions can now be implemented with a single chip embedded microprocessor, eliminating finicky mechanical linkages and dials. Thanks to these advances, home builders have it better today than ever before. I recently built a complete VHF transceiver from 3 chips and a hybrid brick that gives me a 5 watt rig that fits in the palm of my hand. That was essentially impossible a couple of decades ago.

>CW is simple. Regens and barndoor-wide superhets are (or can
>be) simple. They may be a pain to use for some, but they can
>communicate, if communication is desired. The problem I see
>with the push forward of technology is that is quickly removes
>simplicity from everything. Oh, the computer may do more for
>you in controlling your radio, and you might end up with fewer
>buttons to push (although the opposite seems to be the case with
>today's appliance ham radios in that there are more and more
>buttons to push for every conceivable permutation of operation),
> so it seems simpler, but in fact things get more complicated.

Things are simpler in a very real sense. Sure some of the chips we use today contain thousands of transistors, but just as a resistor contains thousands of tiny grains of carbon, we don't care about the precise details of what's inside a component. We care about the functional nature of the component viewed as a N-port network. Receivers and transmitters much more capable than antique regens and crude superhets, are actually simpler today to design and build, and can contain fewer components.

>Spread spectrum, DSP, packet, and other modes seem intriguing. Yet

>they are also fundamentally more complicated. I won't be able
>to just turn on my simple radio and tune any more. Oh, I know
>the spread spectrum nature of the radio will be hidden from me
>as an operator, and I will just "tune", but that is part of the
>point. You are removing us further from knowing and understanding
>the simple sides of life and technology. My "box" will hear
>the signal, but *I* won't. Yet I will still be communicating.
>And that is the point, isn't it -- communication?

Radio communication is definitely a key part of the amateur service.
In a very real way it is *the* key issue. Communications by radio
is what we are about. Doing it *better* is also an integral part
of what we're about as a service. That encompasses many things such
as communicating farther, faster, under more severe conditions
of propagation or interference, or in communicating more complex
ideas from one human to another (IE a higher bandwidth channel).
In *detail* none of this has *ever* been simple, but as the SOTA
advances we've been able to work at higher and higher levels of
abstraction, thus *simplifying* the way we conceptualize and
exploit radio communications.

>One problem with technology moving forward is that the solution
>or next step is almost always more complicated/sophisticated than
>the previous level. You are then further put on reliance of
>matters out of your more immediate control. Technological and
>environmental "fixes" always end up being more sophisticated,
>costing more than previous methods, and more "damaging" in the
>end. In matters of environment and energy, the trend has been
>always towards more and more use of energy, even in the "fix" of
>an environmental problem. The question is not how to make a more
>technologically sophisticated or better radio/car, but how to do
>fundamentally without the radio/car altogether or in its most simplistic
>basic, communicative mode. I personally like to tune and hear the
>radio, and rely on my own wits and know-how to understand the
>message, and not rely upon the "hidden" radio or other means to do so.
>
>I'm not speaking necessarily pro or con CW only (although I lean
>to pro CW much more so), nor am I necessarily against technology
>altogether (although at times I lean towards being a Luddite),
>but just communicating I hope. Talking. We need that too.
>I'm not flaming, not intentionally, but observing, pondering...
>I realize that radio, at any level, is technology and steps
>removed from face-to-face communication. (I wish I could get the
>bunch of you in a room with me to talk face-to-face; we need more
>of that.) Why must we always push forward?

The above *does* sound like the ravings of a Luddite greenie weenie
who arrives at the Save the Earth protest in his pollution belching

old VW van. It's a combination of fear and ignorance talking (with not a small measure of hypocracy, perhaps unrecognized, thrown in). Modern SOTA radio communications equipment uses *less* power and *less* resources while offering *more* capability than the boat anchors of old. That's because it *is* more sophisticated and relies less on brute force and more on cleverness of design and application than the older methods. IE work *smarter* not *harder*. At the level of abstraction needed to build and understand modern radio equipment, today's technology is *simpler* than older techniques, and certainly more reliable and less labor intensive. Labor, both mental and physical, is a finite resource too, as is time, and they should all be targets of conservation for *true* conservationists. Manual Morse encoding/decoding wetware modems are the *most* labor intensive and time consuming items to program and operate of *any* radio modulation technique, and the resulting performance is inferior to more elegant, efficient, and resource conserving methods.

Gary
--

Gary Coffman KE4ZV	You make it,	gatech!wa4mei!ke4zv!gary
Destructive Testing Systems	we break it.	uunet!rsiatl!ke4zv!gary
534 Shannon Way	Guaranteed!	emory!kd4nc!ke4zv!gary
Lawrenceville, GA 30244		

Date: Sun, 26 Jun 1994 21:24:32 GMT
From: ihnp4.ucsd.edu!swrinde!howland.reston.ans.net!spool.mu.edu!caen!malgudi.oar.net!witch!ted!mjsilva@network.ucsd.edu
Subject: CW...hear, touch, simplicity
To: ham-policy@ucsd.edu

In article <1994Jun26.143721.20150@ke4zv.atl.ga.us>, Gary Coffman (gary@ke4zv.atl.ga.us) writes:

[..order of Gary's comments switched for emphasis..]

>Things are simpler in a very real sense. Sure some of the chips
>we use today contain thousands of transistors, but just as a
>resistor contains thousands of tiny grains of carbon, we don't
>care about the precise details of what's inside a component.

This is not a good comparison, because the transistors in the chip are organized as functional blocks (current mirrors, differential pairs, gates, adders, etc) which a well-rounded ham *should* have some knowledge of.

>Well vacuum tubes have a certain quaint charm, and still fill
>some useful niches, but silicon is the name of the game today.
>And advances in silicon fabrication have allowed us to build
>radios that are *simpler* in some very real senses while still
>being much more capable than radios of years gone by. Complete
>IF sections are now available as a single component. DSP offers
>filters at costs and shape factors undreamt of a couple of decades
>ago. Complicated control and display functions can now be implemented
>with a single chip embedded microprocessor, eliminating finicky
>mechanical linkages and dials. Thanks to these advances, home
>builders have it better today than ever before. I recently built
>a complete VHF transceiver from 3 chips and a hybrid brick that
>gives me a 5 watt rig that fits in the palm of my hand. That was
>essentially impossible a couple of decades ago.

Gary, that such radios can be built is not the question. Why aren't they being built? We need to ask, if builders have it better than ever (and I agree they do, once they figure out where to find parts), where are all the homebrew stations, especially above 30MHz? I think a lot of the problem is that peoples' expectations of VHF/UHF rigs are so high that they can't see the point to building one. After all, how many of us can build a channelized, multi-memory rig with PL and autodialer? In that sense, the Tech bands are the worst bands to put newcomers. I also wonder how many homebrew HF rigs are being constructed to be used in a digital station? I think that for every experimenter pushing the state of the art, there are a thousand hams who are scared off by the same SOTA. Let's take some of the effort we put into discussing DSP and cell technology and SS, and discuss why the majority of hams can't wire an op-amp to boost a microphone signal, or build an oscillator for the band of their choice. Rather than focusing the discussion on the SOTA, I'd like to see a lot more effort spent in getting hams to build something, anything, because that's where their education begins. We've lowered the entrance requirements so that almost anyone can get a license, so now how do we get them away from the keyboard and microphone and to the workbench?

Mike, KK6GM

Date: Mon, 27 Jun 1994 04:41:25 GMT
From: ihnp4.ucsd.edu!library.ucla.edu!csulb.edu!nic-nac.CSU.net!
charnel.ecst.csuchico.edu!rat!zeus!rheiss@network.ucsd.edu
Subject: CW ... My view.
To: ham-policy@ucsd.edu

One more view ...

Once you know CW, there is a lower hurdle from being an appliance operator to building or even designing a homebrew rig. CW technology is more accessible than SSB and the minimum cost is much lower, too.

My 35 Watt CW rig with a dipole reached out about as far as a 100 Watt SSB appliance with a beam, and since most hams "speak" CW, I could have fun "talking" with the simple little thing.

Most importantly, I learned electronics while tinkering with the rig. I feel that spreading knowledge of RF technology is one of the main justifications for amateur radio. Code is a stepping stone towards education.

The 13 WPM code test is not too much to ask. Typical CW chats are 15 WPM or more even in the novice bands. An operator who can just barely copy dots and dashes at 5 WPM does not yet appreciate the possibilities of code. If all you could do was crawl, walking would seem impossibly hard, but it's actually easier.

Date: Sun, 26 Jun 1994 15:42:21 GMT
From: ihnp4.ucsd.edu!swrinde!gatech!news.ans.net!sitka.wsipc.wednet.edu!egreen!egreen!jmollan@network.ucsd.edu
Subject: Questions about Radar Jamming
To: ham-policy@ucsd.edu

The police have been using some pretty neat tricks here in Washington. It really appeals to by sense of fair play.
In various places, traffic radar transmitters are mounted. These send a radar signal that causes all of the radar detectors in peoples' cars to trip and everyone hits their brakes, even though there isn't a cop within miles.
Now, if we had these all over.

Some Oregon departments are now using laser speed detectors. Your radar detector is no more useful than a Hallicrafteers S38 for these.

Perhaps if we just minded the speed limit, or at least limited our speed to our IQ?

Date: 26 Jun 1994 21:55:54 GMT
From: ihnp4.ucsd.edu!swrinde!gatech!asuvax!chnews!scorpion.ch.intel.com!cmoore@network.ucsd.edu
To: ham-policy@ucsd.edu

References <gganderson.465.0@augustana.edu>,
<1994Jun26.143721.20150@ke4zv.atl.ga.us>, <354@ted.win.net>
Subject : Re: CW...hear, touch, simplicity

In article <354@ted.win.net>, Michael Silva <mjsilva@ted.win.net> wrote:

>After all, how many of
>us can build a channelized, multi-memory rig with PL and autodialer?

Hi Mike, if the average ham with a PC knew how easy it is to program
an 8051 (for instance) to perform miracles starting with a Ramsey FX146
kit (for instance) I think he would jump right in. Given the parallel
control available in the FX146, an 8051 microcontroller can be programmed
to be a channelized, multi-memory rig with PL and autodialer. My FX146
and IC22s are channelized, have memories, PL, autodialers, and a lot of
other features.

>I'd like to see a lot more effort spent in getting hams to build
>something, anything, because that's where their education begins.
>Mike, KK6GM

The microcontroller portion of a transceiver is a lot easier to build than
the RF portion. Why isn't it being done? I've submitted numerous articles
to the ham publications and all were rejected or ignored. I am a technical
writer and those were good articles. Drag the editors of the ham magazines
into the late 20th century and you will see a change. My articles were
deemed "too technical" for the average ham. Seems more likely that the
editors had no clue about the usefulness of microcontrollers in ham
applications.

73, KG7BK, OOTC, CecilMoore@delphi.com

End of Ham-Policy Digest V94 #286
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